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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,061	10/31/2001	Beate Baumbach	Mo-6497/LeA 34,677	6469
157	7590	01/29/2004	EXAMINER	
BAYER POLYMERS LLC 100 BAYER ROAD PITTSBURGH, PA 15205			TSOY, ELENA	
			ART UNIT	PAPER NUMBER

1762

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/016,061	Applicant(s) BAUMBACH ET AL. 	
	Examiner Elena Tsoy	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |                                                                                              |                                                                             |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:                                          |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 23, 2003 has been entered.

***Response to Amendment***

Amendment filed on December 23, 2004 has been entered. Claims 1-8 are pending in the application.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-4** are rejected under 35 U.S.C. 102(b) as being anticipated by Flynn et al (US 5,229,252).

Flynn et al disclose a process for coating a substrate by

(1) applying to a substrate a coating composition (See column 1, lines 8-12) consisting essentially of: (a) acrylic monomers, (c) epoxy-acrylate oligomers, (d) epoxy resins, (f) a cross-linking agent such as a blocked multifunctional isocyanate, (b) photoinitiator(s), (e) an acidic catalyst (See column 4, line 33) for the epoxy resins (See column 1, lines 64-68; column 2, lines 1-3);

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(2) curing the coating composition by a curing process consisting essentially of (i) flashing off solvents (See column 6, lines 10-11), (ii) applying the action of UV light (See column 6, lines 14-16), and post-curing by increasing the temperature of the applied coating composition (See column 6, lines 19-21);

wherein the acrylic monomers include glycerol triacylate, trimethylolpropane triacylate, pentaerythritol triacylate, 2,2-di(p-hydroxy-phenyl)-propane diacylate, pentaerythritol tetracylate, etc (See column 2, lines 35-62), the epoxy-acrylate oligomers include diacylate (or methacrylate) esters of bisphenol A type resins (See column 3, lines 1-28), the epoxy resins include diacylate ester of a bisphenol A (See column 7, lines 6-7), and the photoinitiators include  $\Sigma$ -caprolactam-blocked isophorone (See column 5, lines 5-6; column 8, lines 67-68).

Therefore, the coating composition consists essentially of:

- A) compounds (a), (c), (d), each of which contains at least two acrylate groups,
- B) blocked polyisocyanate, which does not contain any ethylenically unsaturated groups,
- C) a photoinitiator, and
- D) catalyst.

The Examiner's Note: treating the applied coating layer with alkaline aqueous developer in Flynn et al is conducted merely for removing **unexposed** portions of the coating layer to **physically** change shape of the coating layer (See column 6, lines 16-17). Therefore, developing is **not** part of the curing process.

It is the Examiner's position that a cured coating layer of Flynn et al has claimed properties including solvent resistance *inherently* since it is produced by a method identical or substantially identical processes to that of claimed invention.

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It is held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, *claimed properties or functions are presumed to be inherent*. See MPEP 2111.02, 2112.01. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 5-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Flynn et al (US 5,229,252) in view of Koegler et al (US 5,916,979).

Flynn et al, as applied above, further teach that the blocked multifunctional isocyanate is selected to deblock generally at the cure temperature of the epoxy resin (See column 5, lines 2-5). *An example* of a suitable blocked multifunctional isocyanate is  $\Sigma$ -caprolactam-blocked isophorone (See column 5, lines 5-6).

Flynn et al fail to teach that the polyisocyanate of component B) may be blocked with a blocking agent comprising diisopropylamine.

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Koegler et al teach that amides including lactams (e.g., beta-caprolactam) are functionally equivalent to secondary amines such as diisopropylamine for their use as blocking agents for polyisocyanates (See column 7, lines 18-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used various blocking agents including claimed diisopropylamine to block a multifunctional isocyanate in a process of Flynn et al depending on the cure temperature of an epoxy resin since Koegler et al teach that amides including lactams (e.g., beta-caprolactam) are functionally equivalent to secondary amines such as diisopropylamine for their use as blocking agents for polyisocyanates.

#### *Response to Arguments*

5. Applicants' arguments filed December 23, 2003 have been fully considered but they are not persuasive.

(A) Applicants argue that Flynn requires a "triple cure" process by three independent steps/mechanisms: (1) curing the carbon-carbon double bonds of acrylates (a), especially the epoxy acrylates (c), with UV in the presence of (b); (2) curing OH-groups of acrylates with blocked polyisocyanate (f); and (3) curing by crosslinking the epoxy resins (d) with suitable crosslinkers such as acids or anhydrides (e).

The Examiner respectfully disagrees with this argument. First of all, the epoxy resins (d) of Flynn include diacrylate ester of a bisphenol A (See column 7, lines 6-7), which is in fact epoxy acrylate having the carbon-carbon double bonds of acrylates, that would be cured by UV together with the carbon-carbon double bonds of acrylates (a) and epoxy acrylates (c). Secondly, Flynn teaches, "The acrylic system includes the acrylic monomers (a), the epoxy-acrylate oligomer (c) and the photoinitiator (b). The epoxy system includes the epoxy resin (d) and the

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acidic curative (e) therefor. If a cross-linking agent (f) is used, it is selective to be **reactive** with **free hydroxyl groups** of components of **both** the acrylic and **epoxy** systems.” (See column 2, lines 27-34). Thirdly, since the coating composition of Flynn et al is substantially identical to that of claimed invention, and treated with the same curing process (first with UV and then by thermal post curing) all *claimed properties or functions should be presumed to be inherent*.

Therefore, a curing process of Flynn is also a “double cure” process not “triple cure” since development does not contribute to curing of coating.

(B) Applicants argue that the Examiner has not provided any motivation to modify Flynn with Koegler et al.

The Examiner respectfully disagrees with this argument. Koegler et al are applied to show that amides including lactams (e.g., beta-caprolactam) used as blocking agents in Flynn are functionally equivalent to secondary amines such as diisopropylamine for their use as blocking agents for polyisocyanates (See column 7, lines 18-35). Therefore, the selection of any of these known materials as blocking agent in Flynn would be within the level of ordinary skill in the art.

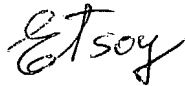
### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30, Mo-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for all communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in cursive script, appearing to read "ETsoy".

Elena Tsoy  
Examiner  
Art Unit 1762

January 22, 2004